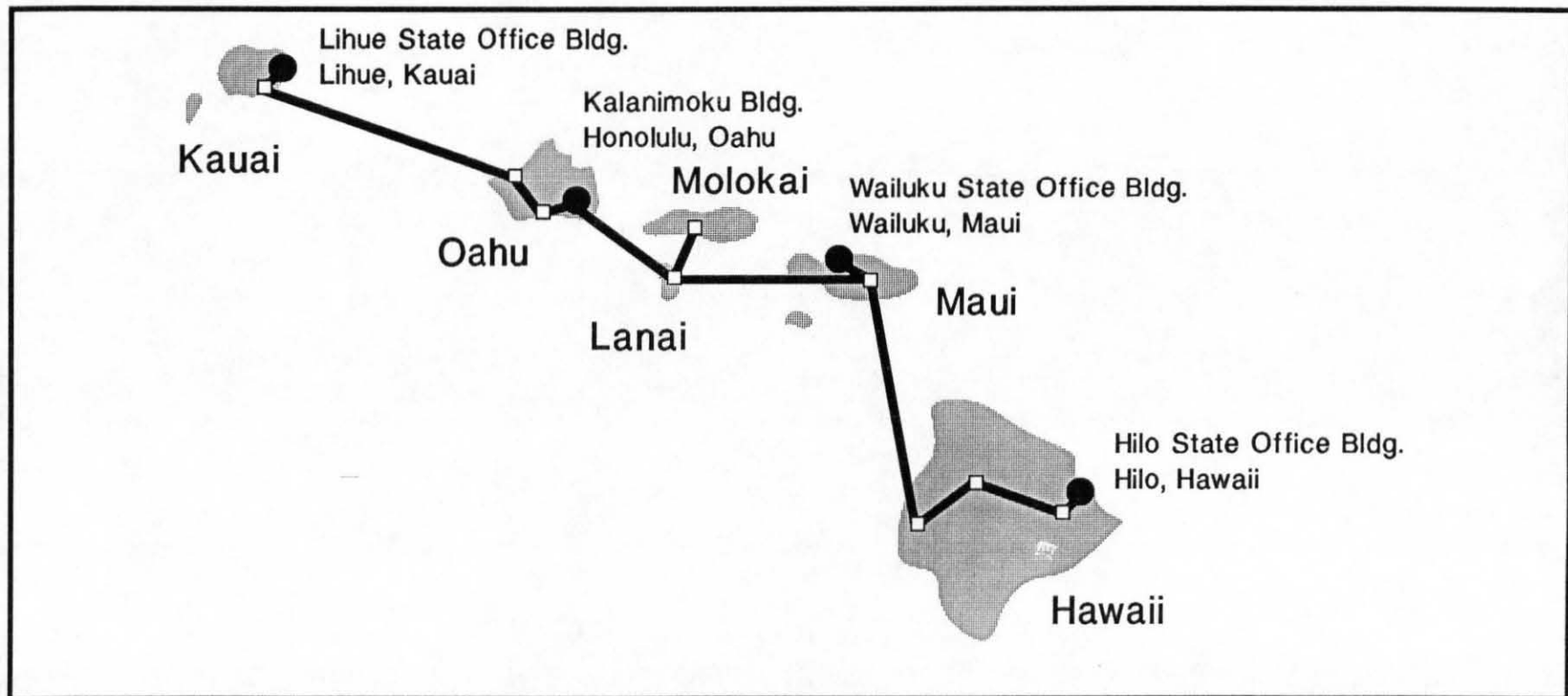


# HAWAIIAN

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## Hawaii Area-Wide Information Access Network



# HAWAIIAN

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Communications Backbone  
of the Strategic Program Initiative  
for Telecommunications & Computers

## HAWIAN:

# The Core of Hawaii's Information Strategy

- Provides unified network for accessing public information
- Builds foundation for future network expansion
- First stage in long-term information industry development strategy
- Enhances network expertise and capabilities throughout State government

## HAWIAN: Long-Term Objectives

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- Interconnect State agency networks and information processing resources into coherent whole
- Provide an information resource for State government, private industry, and the public
- Enhance State services to the public
- Advance economic development in Hawaii

# HAWIAN: The Key Players

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- Dept. of Budget & Finance/ICSD:
  - Network procurement, integration, and management
  - Coordinate access to public information
  - Assist State Departments and Agencies in capitalizing on technology

# HAWIAN: The Key Players

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- State of Hawaii Departments and Agencies
  - Produce information resources for public access
  - Enhance operational capabilities using new information resources
  - Develop applications that capitalize on opportunities available through new technology

# HAWIAN: The Key Players

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- University of Hawaii
  - Connect UH network with HAWIAN backbone
  - Develop UH databases for use by public and private sectors
  - Market and manage UH network resources to users in the Mainland and Pacific Rim countries

# HAWIAN: The Key Players

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- Hawaii INC
  - Encourage & develop information industry
  - Develop base of private information providers
  - Manage access to private information providers
  - Market Hawaii's information industry to commercial users



# HAWIAN:

## Initial Applications

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- Fair Access: Toll-free telephone service from neighbor islands to State offices
- Videotex Gateway: On-line computer access to databases
- Remote Computer Access: On-line terminal access to State computer mainframes
- Video Conference: Centers on each island for State use
- Facsimile & Image: High-speed FAX and image processing

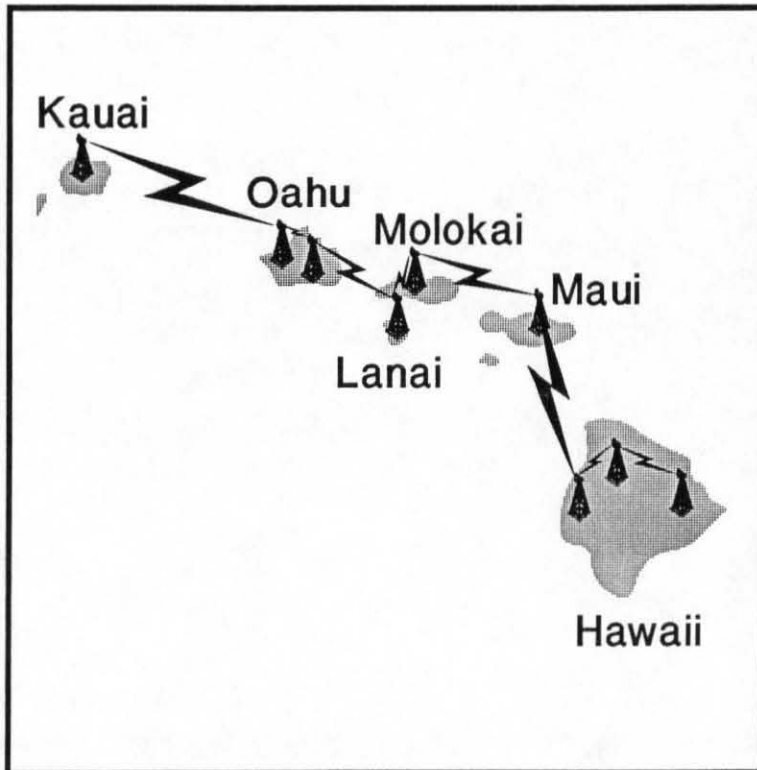
# HAWIAN: Multi-Level Network

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- Microwave backbone
- T-1 multiplexers
- Packet switches
- Remote line concentrators
- Modems
- Video CODECs
- Gateway switches
- Centrex (SELEX)

# HAWIAN Microwave Backbone

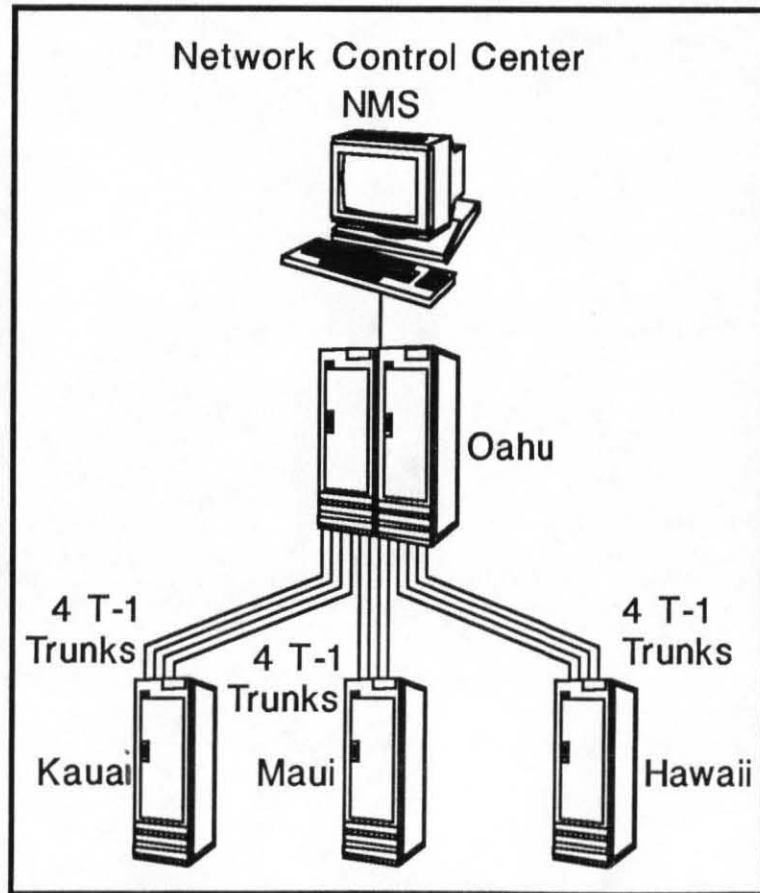
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- Vendor: Harris-Farinon
- Installation underway (completion by 11/15/89)
- 28 T-1 (1.544 Mbps) circuits
- Connects Oahu with Maui, Kauai and Hawaii

# HAWIAN T-1 Multiplexer Backbone

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- Vendor: Fujitsu America, Inc.
- Installation scheduled for 11/28 – 12/29
- Initial T-1 circuits: 4 to each neighbor island
- Support for all HAWIAN voice and data applications

# HAWIAN Packet-Switching Application

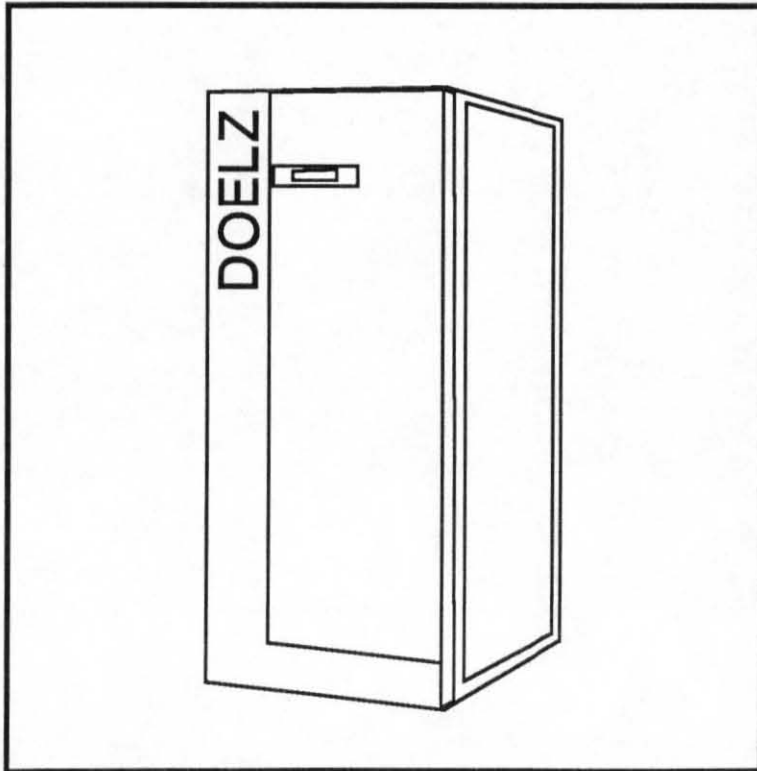
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- Vendor: Timplex, Inc. (Unisys)
- Installation scheduled for 11/28 - 12/29
- Initial 56K circuits
  - Up to 36 V.35 circuits on neighbor islands
  - Up to 108 V.35 circuits on Oahu
- Provides connection to Videotex Gateway switch and Public Data Network

# HAWIAN Remote Line Concentration Application

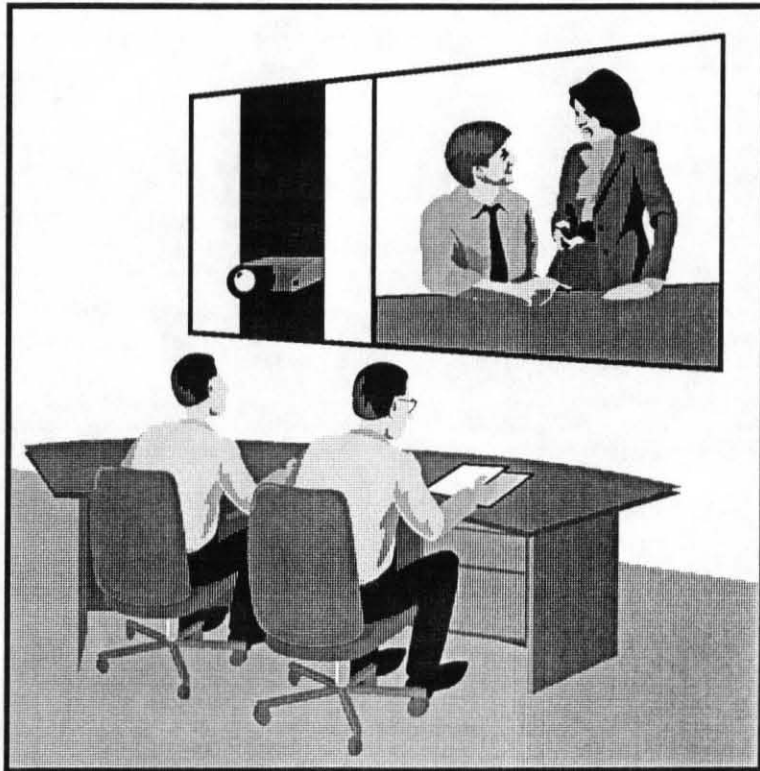
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- Vendor: Doelz Networks
- Installation scheduled for 11/28 - 12/29
- Initial 56K circuits
  - Up to 36 V.35 circuits on neighbor islands
  - Up to 108 V.35 circuits on Oahu
- Provides connection to remote host computers

# HAWIAN Video Conferencing Application

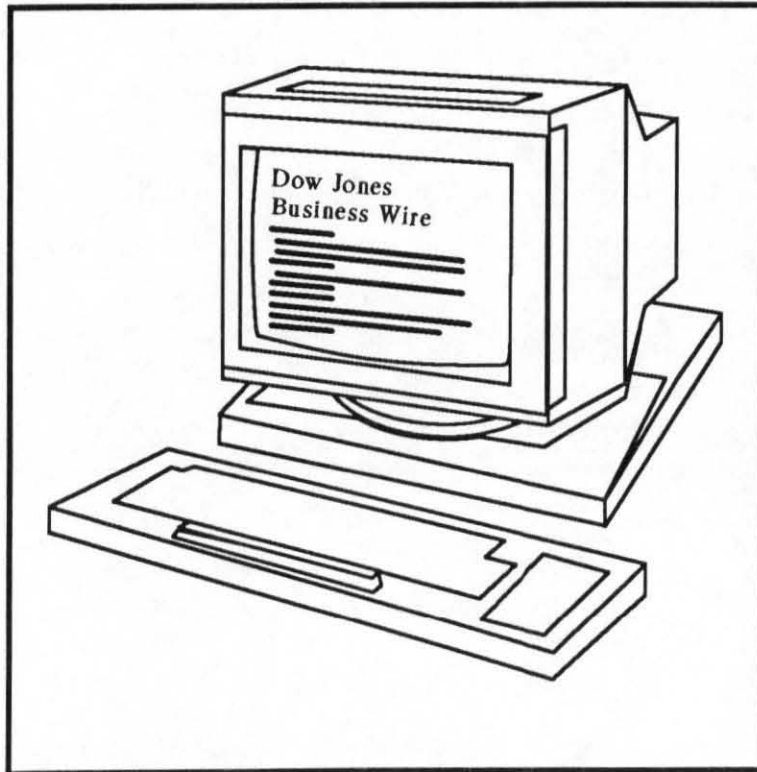
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- Vendor: Midwest Communications Corp.
- Installation scheduled for 11/28 - 12/29
- Provides video conferencing to each neighbor island and Oahu
- Connection using video codec via HAWIAN microwave backbone

# HAWIAN Videotex Gateway Application

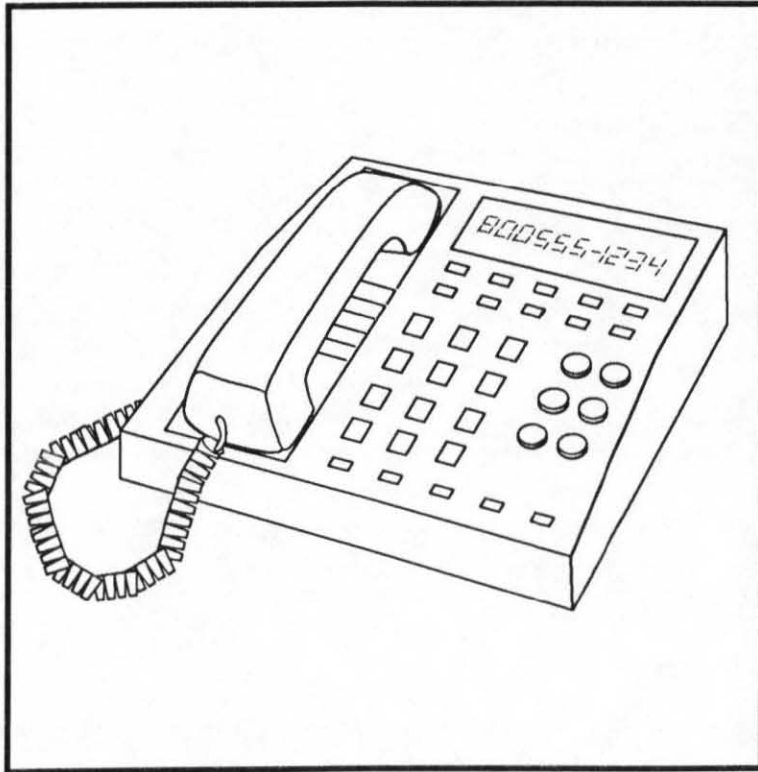
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- Vendor: Digital Equipment Corporation
- Installation scheduled for 11/28 - 12/29
- Provides gateway switching to on-line databases from private Information Providers
- Access to State agencies through HAWIAN



# HAWIAN Voice Applications



- Vendor: GTE Hawaiian Telephone
- Centrex (SELEX) service
- Fair Access from neighbor islands will be provided via HAWIAN

# HAWIAN Applications Overview

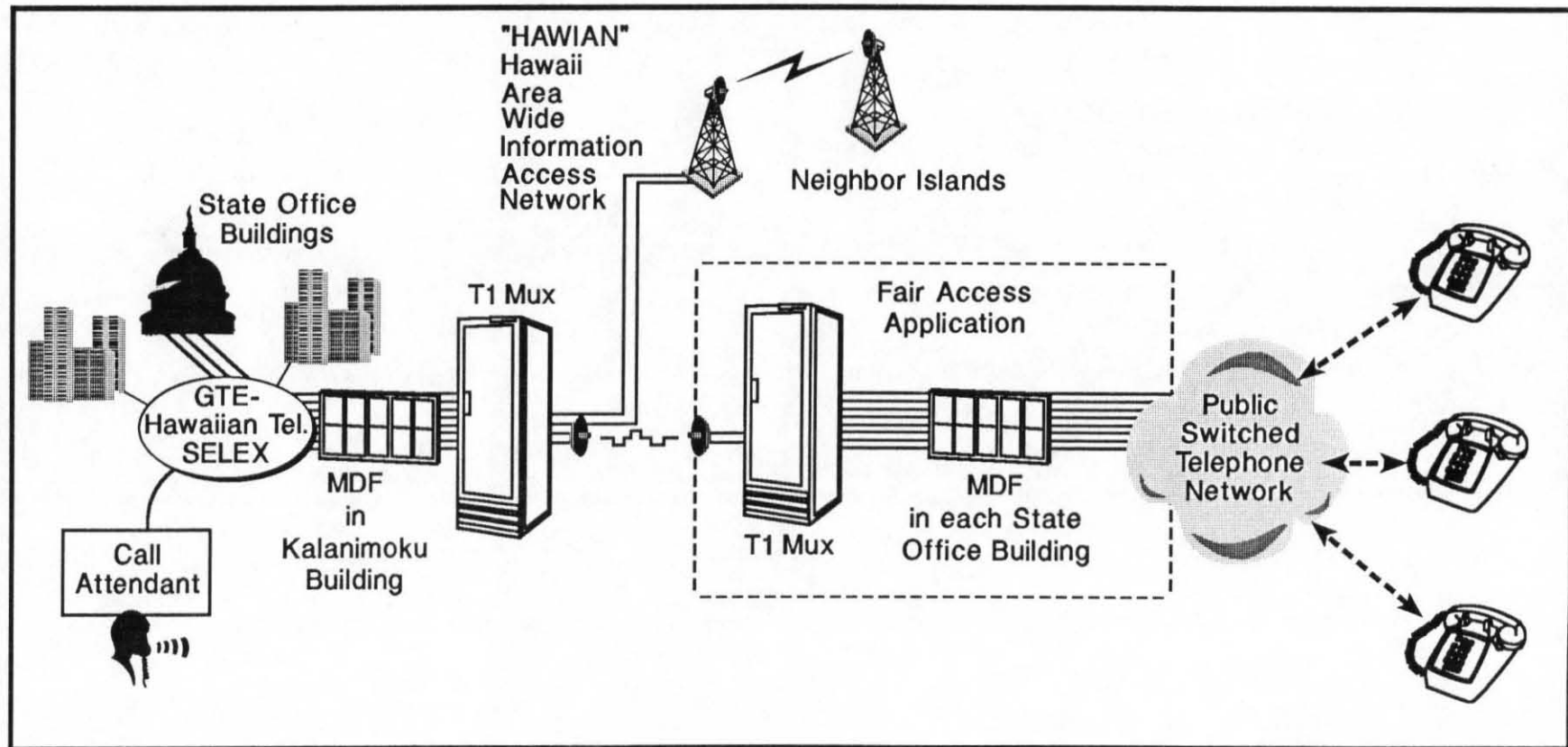
- Fair Access Telephone Service
- Videotex Gateway Service (Packet-Switching)
- Remote Line Concentration Service
- Video Conference Center Service

## Fair Access: Toll-Free Telephone Service



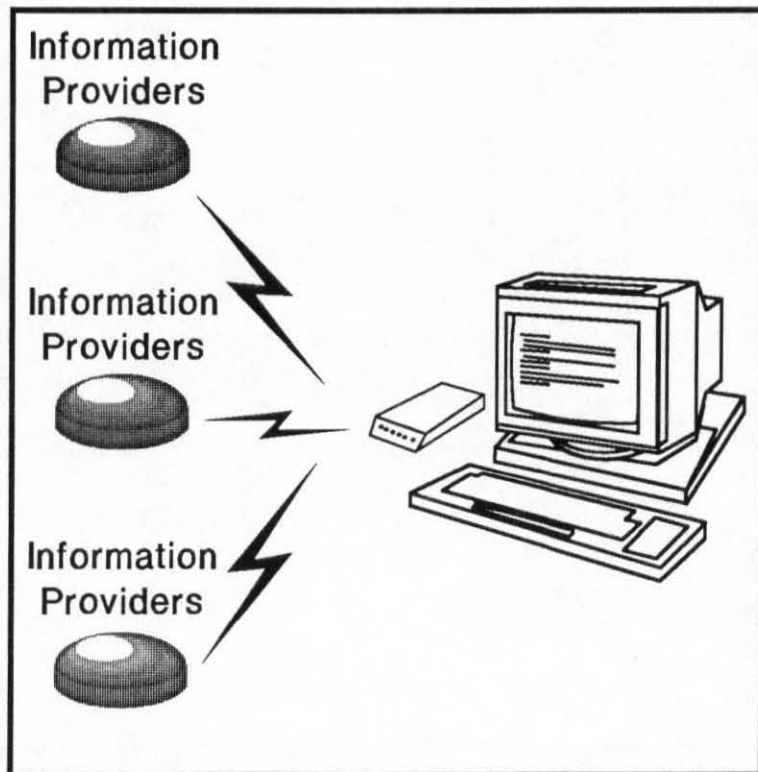
- Fair Access is available on each neighbor island by toll-free call
- Access to Honolulu State Office Buildings is available via HAWIAN

# Fair Access: Voice Application



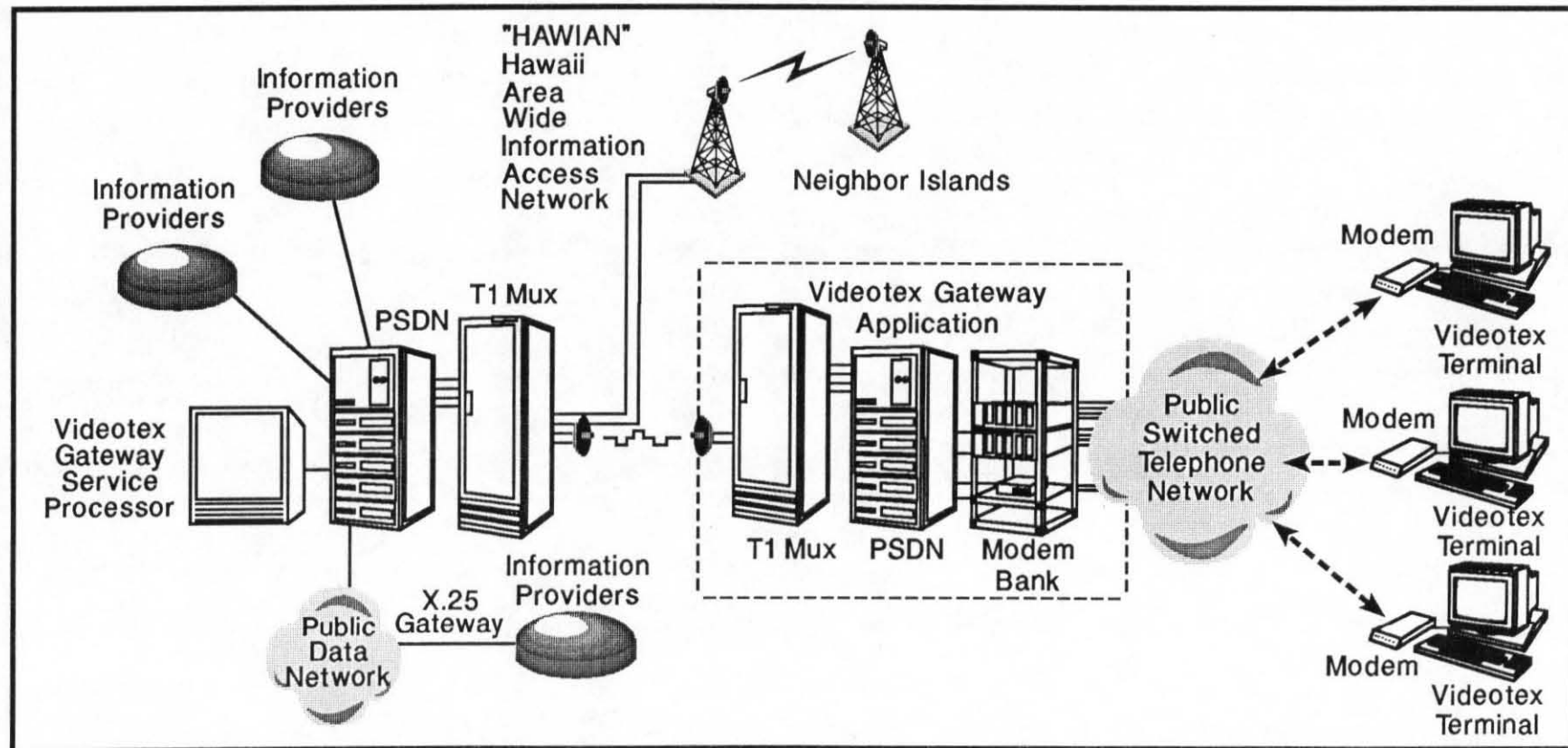
# Videotex: Gateway Access Service

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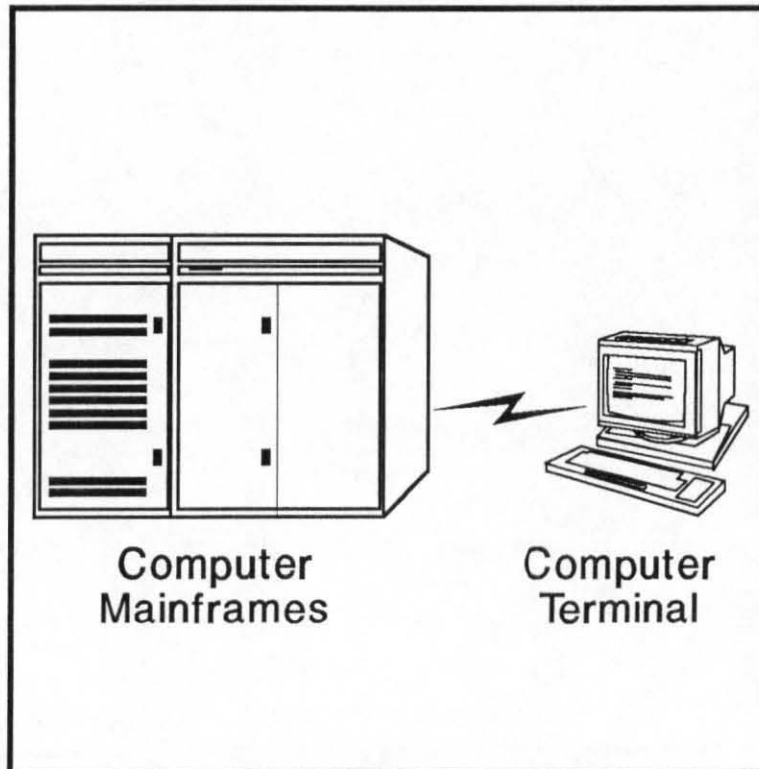
- Videotex Gateway Services are available on each neighbor island by toll-free call
- Access to Honolulu-based Gateway is available via HAWIAN

# Videotex: Gateway/Packet Switched Data Network Application



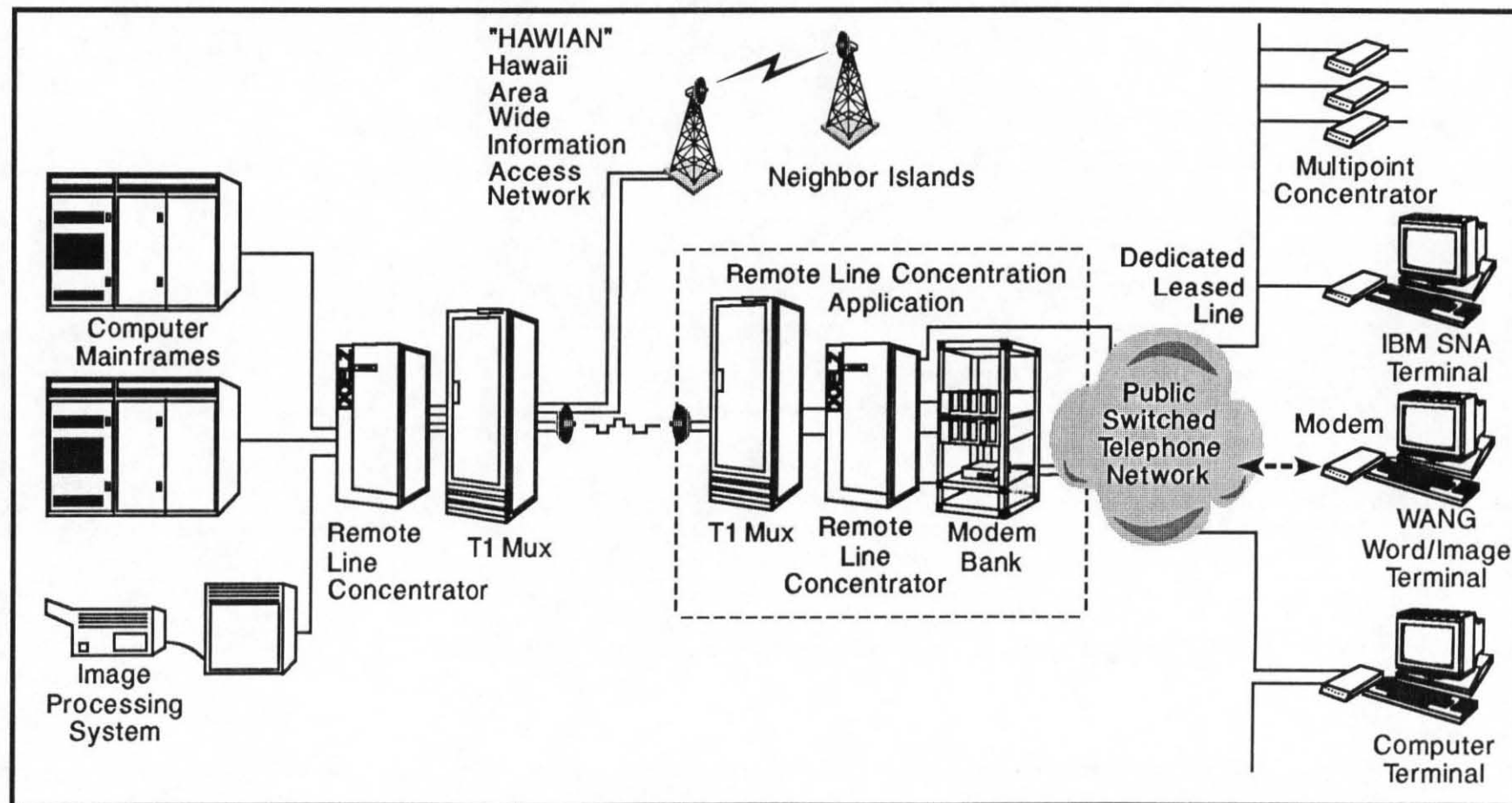
# Remote Computer Access: Line Concentration Service

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- Remote Line Concentrator (RLC) will provide network access to over 250 remote sites
- Access to Honolulu-based computer systems is available via HAWIAN

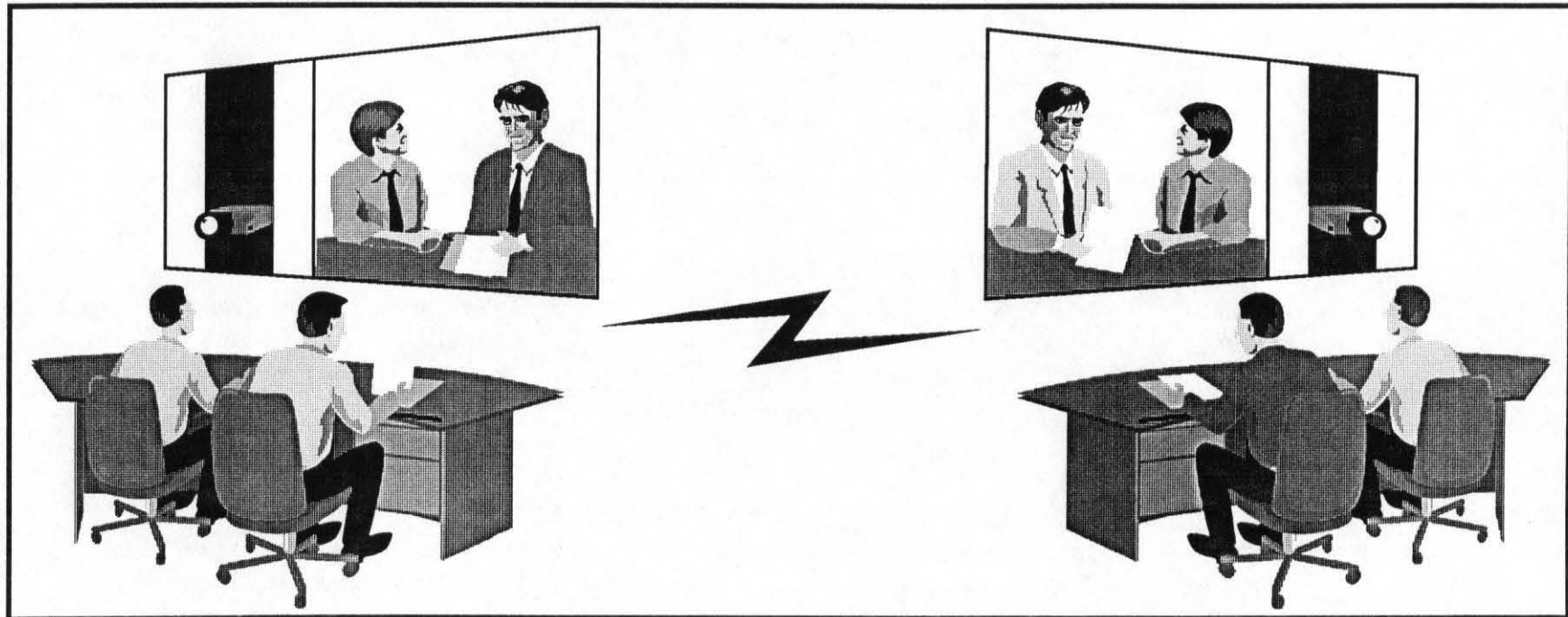
# Remote Computer Access: Line Concentration Application





# Video Conference Center Service

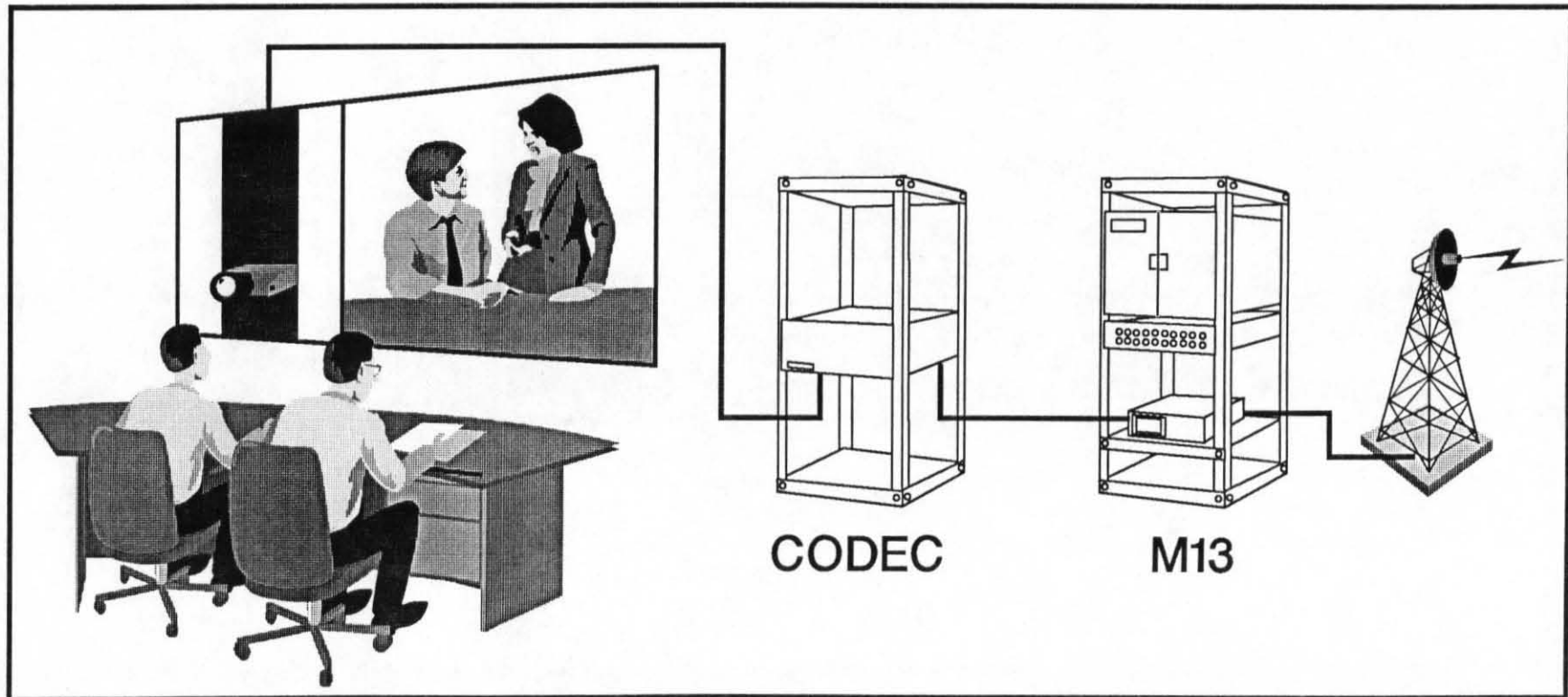
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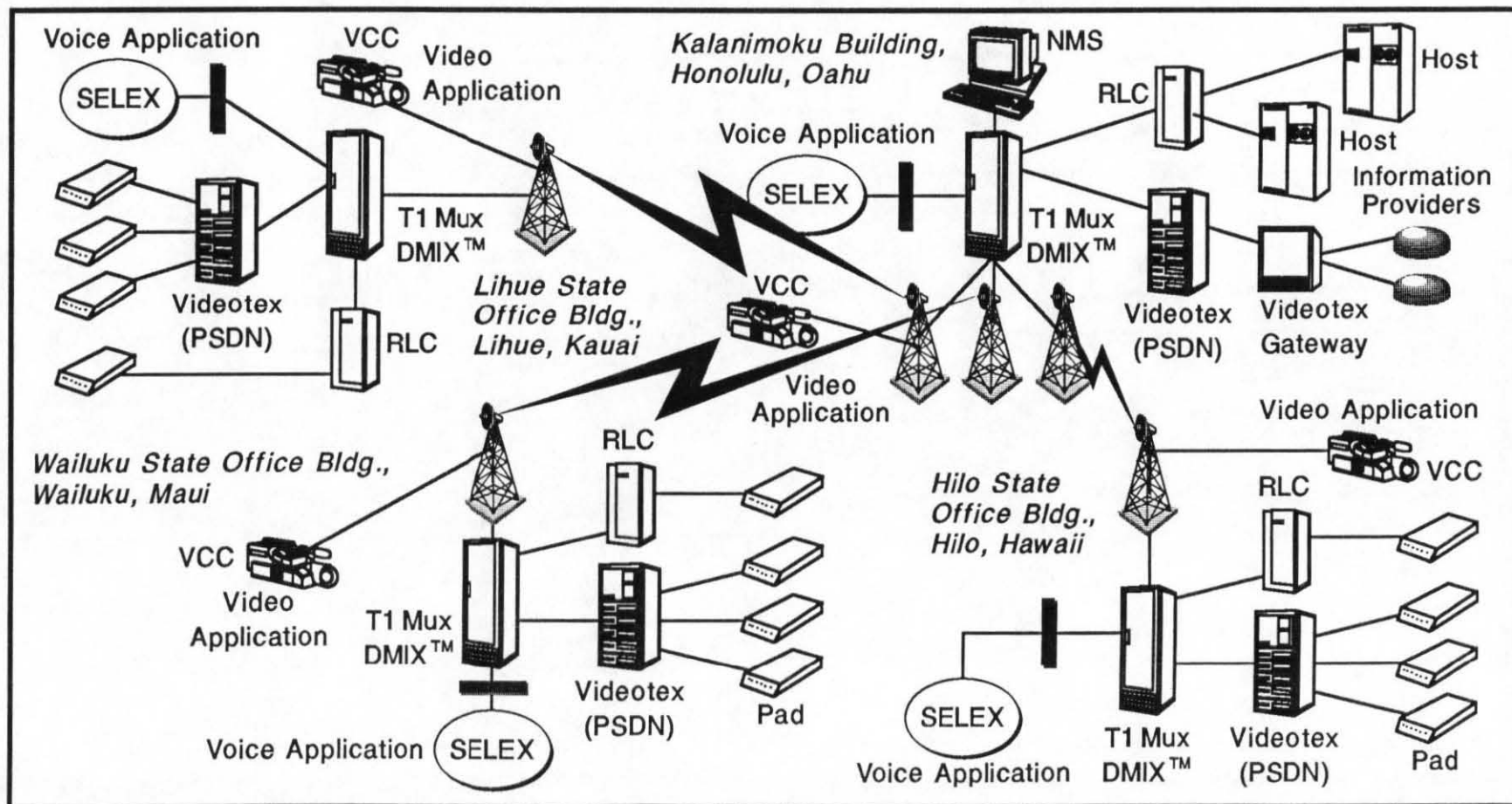
- Access to State of Hawaii Video Conference Centers is available via HAWIAN network
- Video Conference Centers will be located in Oahu and on the neighbor islands

# Video Conference Center Application

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# Total Network Overview



# Physical Integration of Multi-Vendor Equipment

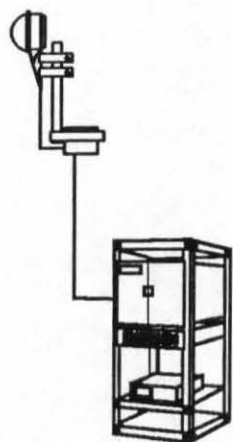
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- Short-haul digital microwave located on rooftop (18 GHz to Relay)

# Physical Integration of Multi-Vendor Equipment

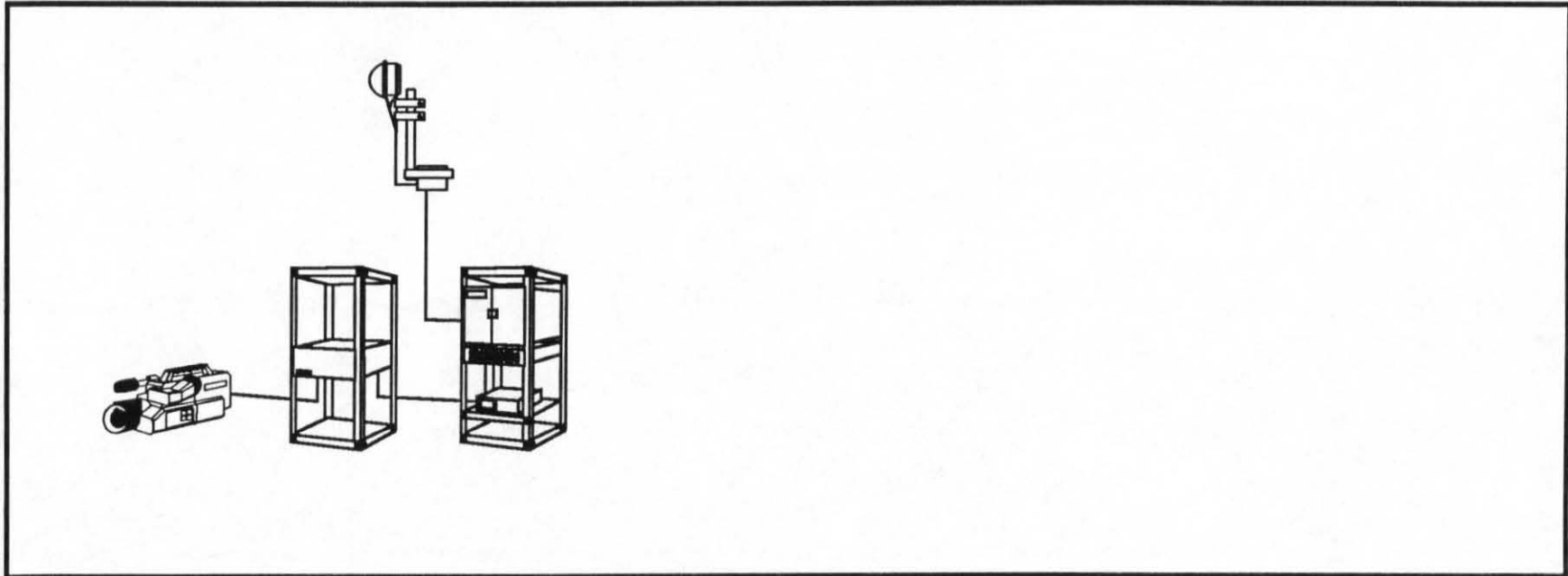
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- M13 multiplexer with DSX-1 interface
- Direct DS3 termination of M13 multiplexer into microwave equipment

# Physical Integration of Multi-Vendor Equipment

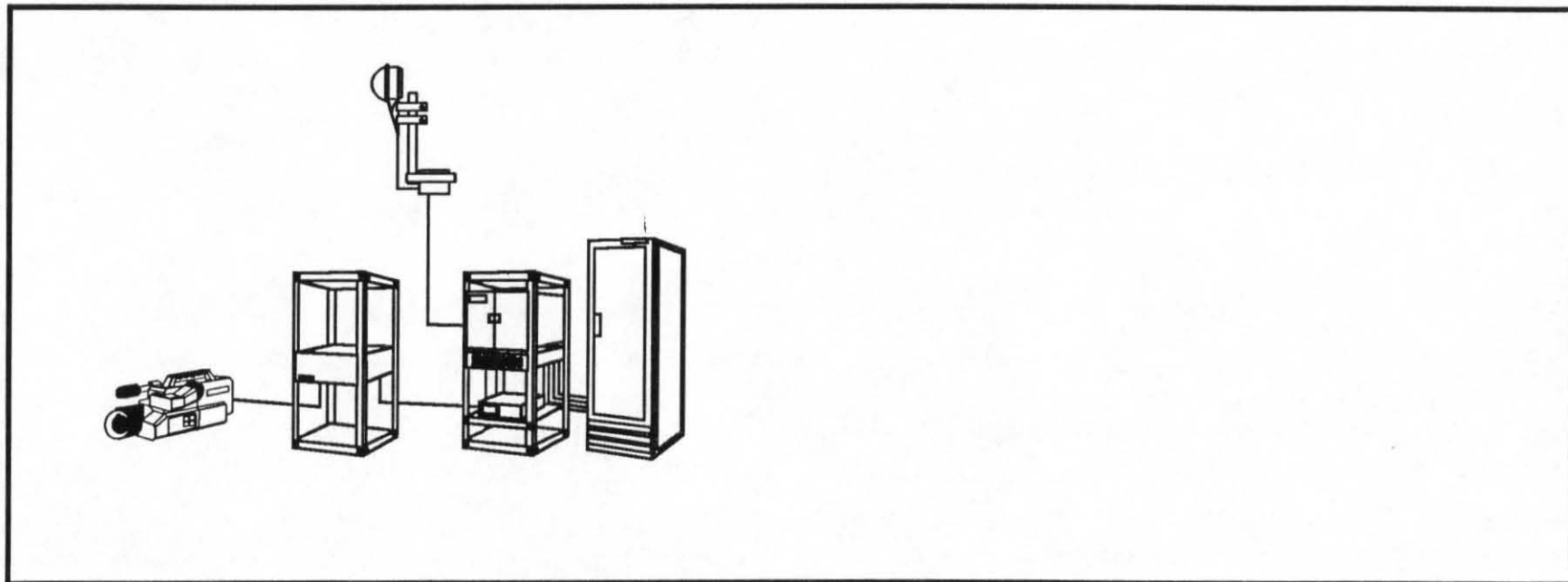
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- Video CODEC termination to DSX-1 (M13 Multiplexer)

# Physical Integration of Multi-Vendor Equipment

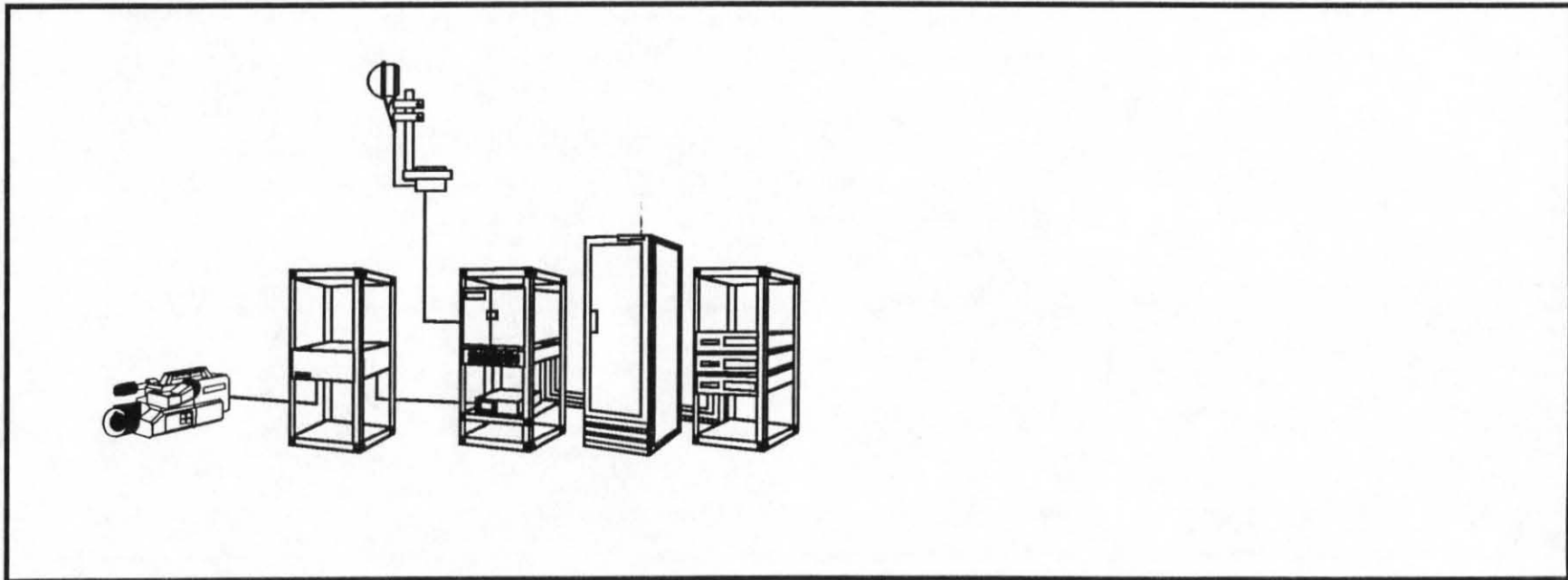
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- T-1 Multiplexer termination to DSX-1 (M13 Multiplexer)

# Physical Integration of Multi-Vendor Equipment

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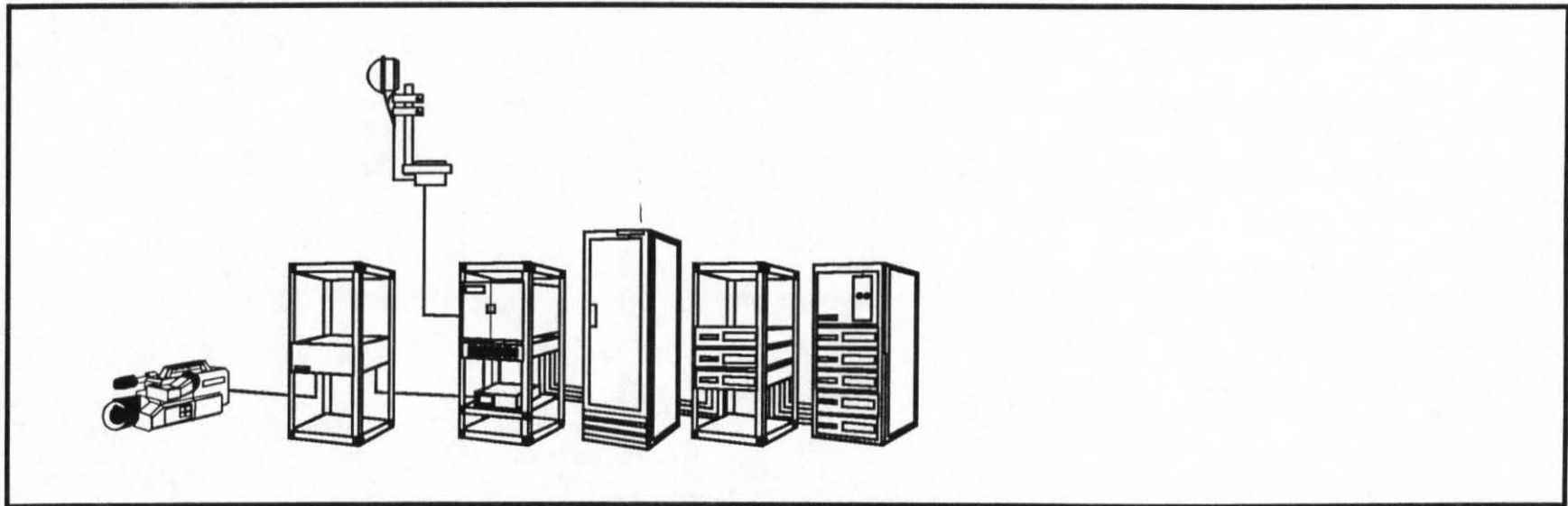


- V.35 Presentation Panel
- Interface to T-1 Multiplexer
- Contained in telco rack



# Physical Integration of Multi-Vendor Equipment

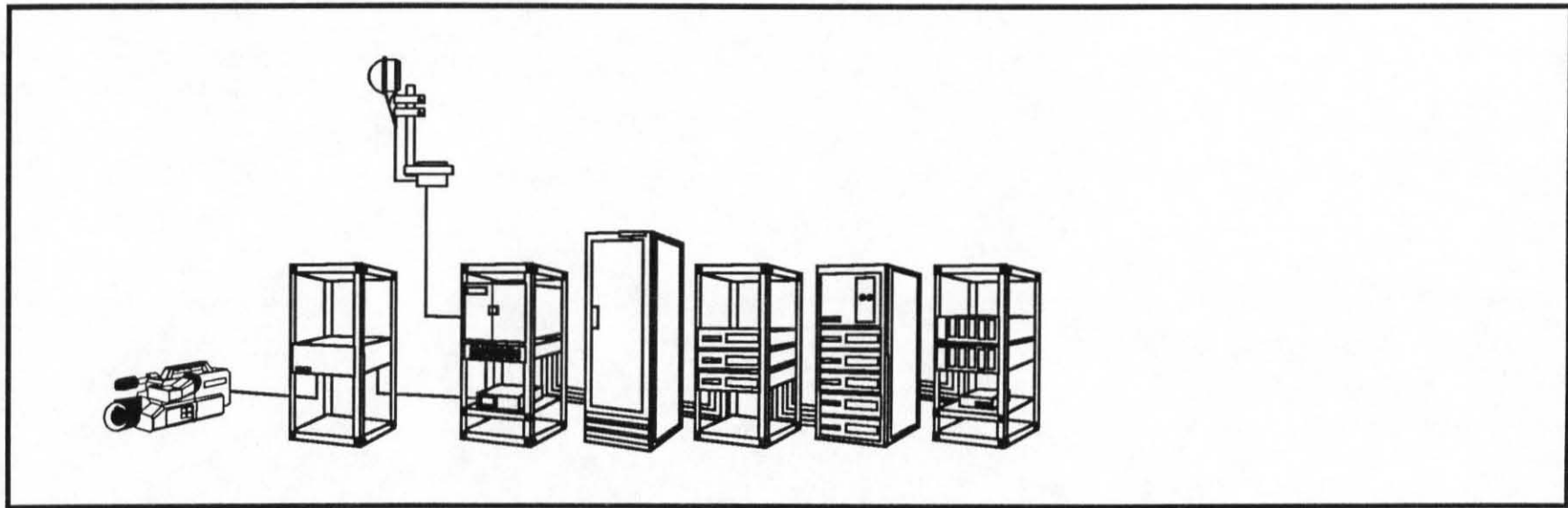
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- Packet Switch Processor and PADs
- Input from modems
- Terminates connection to T-1 Multiplexer via V.35 Panel
- Contained in telco rack

# Physical Integration of Multi-Vendor Equipment

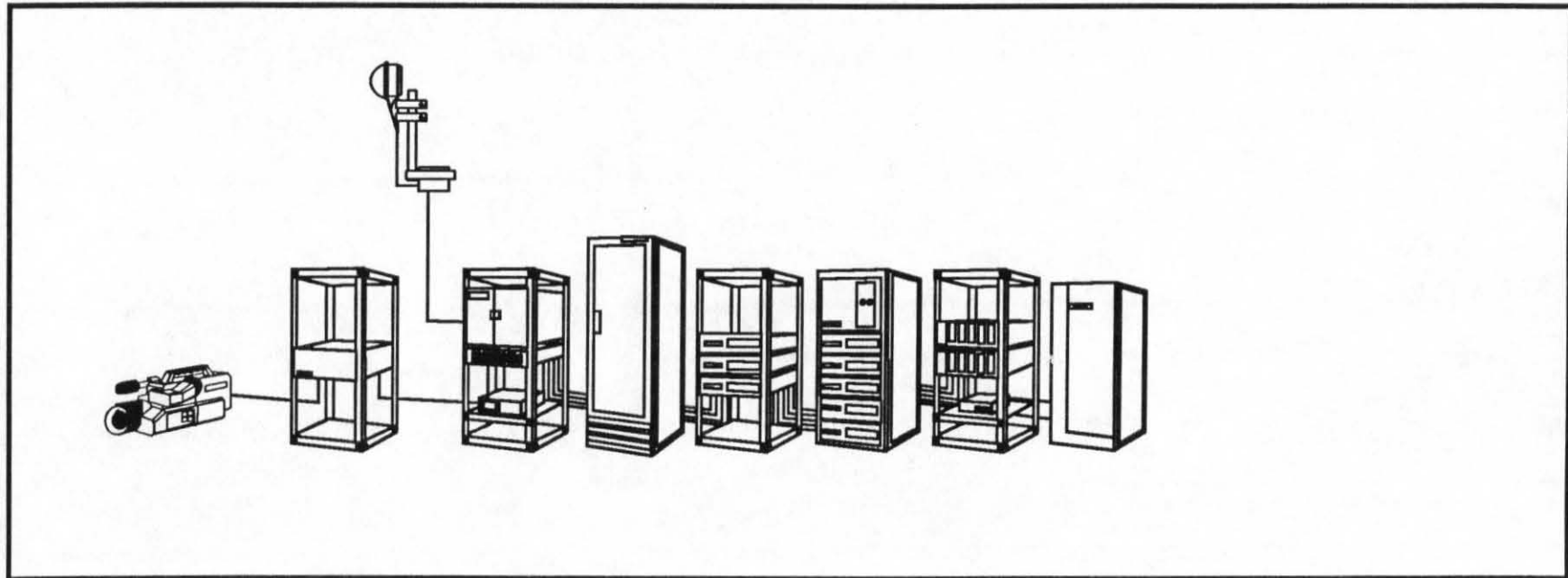
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- Modem Bank
- Input from phone lines in telco Main Distribution Frame
- Terminates connection to Packet Switch and RLC
- Contained in telco rack

# Physical Integration of Multi-Vendor Equipment

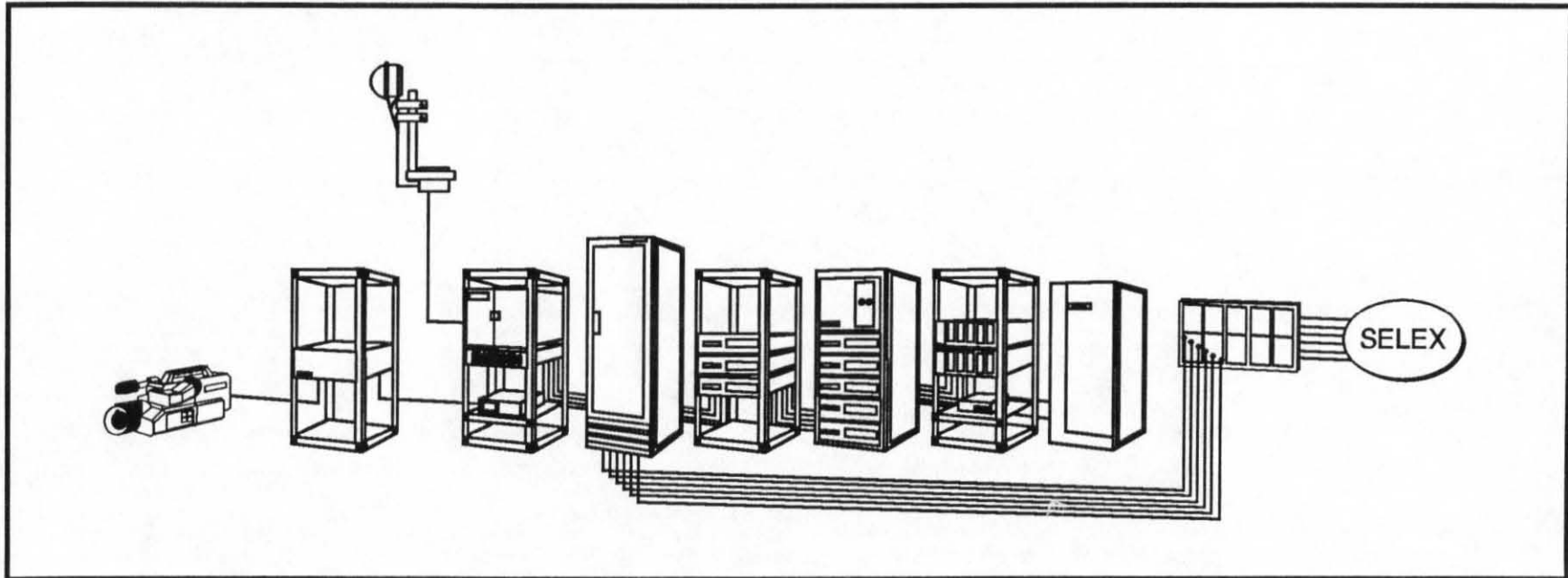
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- Remote Line Concentrator
- Input for leased lines and modems
- Terminates connection to T-1 Multiplexer via V.35 Panel

# Physical Integration of Multi-Vendor Equipment

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- Telco Main Distribution Frame
- Interface to SELEX
- Terminates SELEX to T-1 Multiplexer

# HAWIAN: The Foundation for Future Growth

